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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,323	12/28/2001	Marcia Reid Martin	2001-057-SFT	8893

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STORAGE TECHNOLOGY CORPORATION
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EXAMINER

PARTHASARATHY, PRAMILA

ART UNIT	PAPER NUMBER
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2136

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,323

Applicant(s)

MARTIN ET AL.

Examiner

Pramila Parthasarathy

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the communication filed on 09/06/2005. Claims 1 – 27 are cancelled and new claims 28 – 40 are currently pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1 – 27 have been considered but are moot, as they have been cancelled. Applicant's arguments with respect to claims 28 – 40 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 28 – 40 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 33 of U.S. Patent 6,839,819. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant case, all elements of claims 28 – 40 correspond to the claims of 1 – 33 of the Patent 6,839,819 claims, except in the instant claims

“creating a sequence of mirrors-in-the-middle, each mirror-in-the-middle including a copy of data stored on the primary storage system at a fixed point in time; checking a first mirror-in-the-middle of the sequence of mirrors-in-the-middle to see if a copy of data stored on the first mirror-in-the-middle satisfies at least one constraint; and if not, repeating checking previous mirrors-in-the-middle in the sequence of mirrors-in-the-middle until one of the checked previous mirrors-in-the-middle include an uncorrupted copy of data satisfying the at least one constraint”, is referred in the Patent 6,839,819 claims as a random-access storage unit storing a forward journal and a backward journal; wherein the random-access storage unit stores a mirror-in-the-middle containing a copy of contents of a primary storage device at a fixed point in time; wherein the random access storage unit stores at least one snapshot containing

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changes, that when made to the contents of the mirror-in-the-middle, would result in a previous version of the contents of the primary storage device; wherein the control circuitry stores a mapping object, wherein the mapping object maps logical address into physical address on the mirror-in-the-middle and contained in the at least one snapshot; wherein a mirror-in-the-middle is updated to reflect the net change. It would have been obvious to one having ordinary skill in the art to recognize that creating a sequence of mirrors-in-the-middle, each mirror-in-the-middle including a copy of data stored on the primary storage system at a fixed point in time; can be random-access storage unit storing a mirror-in-the-middle containing a copy of contents of a primary storage device at a fixed point in time.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 28 – 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Brunnett et al. (U.S. Patent 6,792,517).

5. Regarding Claim 28, Brunnett teaches creating a sequence of mirrors-in-the-middle, each mirror-in-the-middle including a copy of data stored on the primary storage system at a fixed point in time (Summary and Column 3 lines 35 – 53);

checking a first mirror-in-the-middle of the sequence of mirrors-in-the-middle to see if a copy of data stored on the first mirror-in-the-middle satisfies at least one constraint (Summary and Column 3 lines 35 – 53); and

if not, repeating checking previous mirrors-in-the-middle in the sequence of mirrors-in-the-middle until one of the checked previous mirrors-in-the-middle include an uncorrupted copy of data satisfying the at least one constraint (Summary and Column 3 lines 35 – 53).

6. Regarding Claim 35, Brunnett teaches a random-access storage unit storing a sequence of mirrors-in-the-middle, each mirror-in-the-middle including a copy of data stored on the primary storage system at a fixed point in time (Summary and Column 3 lines 35 – 53); and

control logic in communication with the random-access storage unit, the control logic operating to checking a first mirror-in-the-middle of the sequence of mirrors-in-the-middle to see if a copy of data stored on the first mirror-in-the-middle satisfies at least one constraint, and if not, repeating checking previous mirrors-in-the-middle in the

sequence of mirrors-in-the-middle until one of the checked previous mirrors-in-the-middle include an uncorrupted copy of data satisfying the at least one constraint (Summary and Column 3 lines 35 – 53).

7. Claims 29 and 36 are rejected as applied above in rejecting claims 28 and 35. Furthermore, Brunnett teaches restoring the uncorrupted copy of data to the primary storage system (Summary; Column 3 lines 35 – 53 and Column 4 line 58 – Column 7 line 4).

8. Claims 30 and 37 are rejected as applied above in rejecting claims 28 and 35. Furthermore, Brunnett teaches checking comprises scanning for viruses (Summary; Column 3 lines 35 – 53 and Column 4 line 58 – Column 7 line 4).

9. Claims 31 and 38 are rejected as applied above in rejecting claims 28 and 35. Furthermore, Brunnett teaches monitoring a database for consistency of constraints (Summary; Column 3 lines 35 – 53 and Column 4 line 58 – Column 7 line 4).

10. Claim 32 is rejected as applied above in rejecting claim 28. Furthermore, Brunnett teaches storing the sequence of mirrors-in-the-middle using a data management appliance (Summary; Column 3 lines 35 – 53 and Column 4 line 58 – Column 7 line 4).

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11. Claims 33 and 39 are rejected as applied above in rejecting claims 28 and 35.

Furthermore, Brunnett teaches restoring the copy of data stored on the first mirror-in-the-middle to the primary storage system if the copy of data stored on the first mirror-in-the-middle satisfies the at least one constraint (Summary; Column 3 lines 35 – 53 and Column 4 line 58 – Column 7 line 4).

12. Claims 34 and 40 are rejected as applied above in rejecting claims 28 and 35.

Furthermore, Brunnett teaches checking a copy of data stored on the first mirror-in-the-middle satisfies the at least one constraint, checking a copy of data stored on at least one additional mirror-in-the-middle later in the sequence of mirrors-in-the-middle than the first mirror-in-the-middle satisfies the at least one constraint (Summary; Column 3 lines 35 – 53 and Column 4 line 58 – Column 7 line 4).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Examiner's Note: Examiner has cited particular columns and lines numbers in the references as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.


14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892.

Applicant is urged to consider the references. However, the references should be evaluated by what they suggest to one versed in the art, rather than by their specific disclosure. If applicants are aware of any better prior art than those are cited, they are required to bring the prior art to the attention of the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pramila Parthasarathy whose telephone number is 571-272-3866. The examiner can normally be reached on 8:00a.m. To 5:00p.m.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-232-3795. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR only. For more information about the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pramila Parthasarathy
January 29 2006.


AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
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